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CLIMATE MIGRATION AND URBAN SOCIAL COHESION: NEIGHBORHOOD-LEVEL EVIDENCE FROM KARACHI'S COASTAL SETTLERS

Hamza Saeed*
Sindh Institute of Management & Technology, Karachi, Pakistan. Corresponding Author Email: hamza.dr@hotmail.com
Muneeb Ullah
Department of Computer Science, Federal Urdu University of Arts and Technology, Karachi, Pakistan.

ABSTRACT

Climate change has become a major force of migration in recent years, especially for people living in low-lying areas where sea levels are rising and extreme weather is more severe. In Karachi, Pakistan, this movement has affected city demographics and has brought host communities' social cohesion into question. This research explores the impact of climate induced migration on neighbourhood level urban social cohesion in Karachi with specific reference to cud coasters migrated as a consequence of environmental degradation. Adopting the theory of behavioral operations, the research investigates how social networks, economic integration and local governance support or deteriorate migrants' and host communities' sustainability. The analysis is based on mixed methods using field surveys and archival data collected from 500 respondents in different districts. The results indicate that there are high barriers to the integration of climate migrants, but they also show that social cohesion was facilitated by strong social networks availability and effective local governance. These findings are useful for decision-makers and city administrators aiming to establish inclusive policies toward climate migrants. The research also contributes to knowledge about climate-induced migration and its effect on the dynamics of urban social spaces, as well as local strategies that cities can develop for becoming more resilient and building integrated communities in the context of climate-related displacement.

Keywords: Climate Migration, Urban Social Cohesion, Karachi, Coastal Settlers, Behavioral Operations, Social Capital

INTRODUCTION

Cities everywhere are confronting a new humanitarian crisis, as climate migrants from across the world have swelled their populations, largely with people pushed out of coastal areas by rising seas and other effects of climate change. Migration is a critical response to climate change—particularly in lowlying coastal regions, which many people depend on for their livelihoods (Rigaud et al. This challenge is particularly salient in cities such as Karachi: Pakistan's largest city on the coast, and one that has resulted from rapid urban growth and environmental degradation. Population Influx: Karachi, a city of over 14 million people, has witnessed growing migration from the coastal areas by climate-induced disasters such as sea-front flooding, saline water intrusion and cyclones (Ahmed et al., 2020).

The urban manager has to provide both basic necessities—such as housing, sanitation and public health care—and create social bonds between newcomers and existing inhabitants. Migrants from the coast are frequently subject to cultural, social, and economic differences that provoke unrest in urban areas. The issue for urban managers in the cities is integrating these migrants into Karachi's social fabric-resource pressure is not a problem at all-, this can be done easily with out reaping the social divisions that migration often creates. This extends beyond infrastructure, to the creation of an atmosphere in which migrants and host communities could live alongside each other, trust each other and make use of economic opportunity.

This has in many cases resulted in enclaves of "climate migrants", who are trapped on the margins of urban centres, living without proper services and support. These discrete groups may generate social conflict if local people see migrants as rivals for limited assets or as cultural foreigners (Moser, 2020). The absence of an inclusive governance and effective integration policies can aggravate these tensions, resulting to a fractured urban setting. Physical and social integration have to be managed in combination by urban managers to avoid a disjointed city.

There is an abundance of research done around the broader implications of climate migration; however, most tend to address issues on a macro-level including triggers of

migration processes, economic development (for both sender and receiving countries) and policy response (Fankhauser & Burkett 2023)[6]; McLeman2021[6]). But there is little study on the impact of climate migration, at increasingly finer scales, how it may disrupt social cohesion at the neighborhood level especially in rapidly urbanization cities such as Karachi in Global South. Migration is also generally under-explored in the existing literature on micro-level community relationships, such as integration and its influence on urban cohesion (Portes & Vickstrom, 2020).

Also, little is known about the influence of social networks and community trust in promoting unity. Most previous research approaches economic integration or institutions' response (Ajanaku & Udo, 2019), while the social dynamics, which constitute the fabric of neighbourhood cohesion still are not well accounted for. This space indicates there is further work to do on how climate migration changes social structures inside cities.

This gap is addressed in this research, where I have investigated the neighborhood level impact of climate migration on social cohesion in Karachi to better understand how migrants and host population interact. It should propose ways urban managers may found inclusive and cohesive urban places.

The study is grounded in behavioural operations theory and highlights how individual and group behaviour within social settings influence larger collective outcomes (Huang & Tyndall, 2018). Such a framework can assist in discerning the main drivers of receptivity towards integration including social networks, governance and economic opportunities (Kumar & Gupta 2020). This will in turn inform efforts to promote social cohesion within urban climate migrants.

It is for this reason that these researchers are calling attention to their findings because it has implications for policymakers and urban managers dealing with climate migration. As climate change drives migration from coasts, the challenge of promoting social cohesion will be a more critical and complex one. The results can be used by urban mnagers to create policies that address migrants' needs and support long-term integration, and mutual support between migrants and host communities. This research provides a reference for promoting urban social stability and sustainable development, which can be regarded as an example for those rapidly urbanizing coastal cities throughout the world.

Objectives

1. To study the Riyadh Manarat Al-Riyadh region's neighborhoods compared to how Karachi's neighborhoods were transformed by environmental migration.
2. To determine significant drivers (e.g. social networks, economic integration, local governance) that have an impact on successful or unsuccessful social cohesion between climate migrants and host communities.
3. To form suggestions for urban managers about facilitating social cohesion in climate migrant affected neighbourhoods.

LITERATURE REVIEW

People forced to move from their home due to the environment or land degraded related issues like flooding, hurricanes, sea level rise, desertification (or) any adverse climatic stress affecting livelihood of people resulting in climate migration (Collins et al., 2014). The coasts and lowlands are becoming more and more unliveable, leading to temporary or permanent migration. By the end of this century, the IPCC (2021) forecasts that millions will be displaced. In contrast to other forms of migration, which are motivated by political or economic causes, climate migration is now uprooting communities for reasons that echo the past—forcing people to flee their homes not on account of politics but because of environmental events phenomena

(which then lead to political reaction) while condemning those displaced by climate disasters, so-called "environmental refugees", to limbo and lack remnant state recognition or protection (McAdam 2020).

Urban Social Cohesion Urban social cohesion is the degree of social integration, trust and cooperation at local level within urban societies, grounded on shared values, inclusion and reciprocity (Portes & Vickstrom 2020). It is essential for keeping order in cities and especially in those with large diversity. In the context of climate-related migration, social cohesion is essential to facilitate the integration of migrants, diminish tensions, and build urban resilience (Zetter, 2019). For climate displaced people, successful integration is only possible if leave/return decisions are taken based on trust and availability of resources that promote equal access and accommodate specific needs (Ribeiro et al., 2022).

This paper foregrounds ‘Climate Change Induced Migration’ from within the city of Karachi, Pakistan, especially that of coastal societies who have faced severe and acute impacts of climate change. It does not consider other types of migration, such as economic (motivated by job opportunities or hardship) or political (for example, refugees escaping conflict), since these groups are likely to face different challenges with regard to integration. The analysis focuses on climate migration-affected neighborhoods in Karachi ’s coastal/ informal settlements, excluding middle-income areas with lower than census average FSI and GDP.

There are a number of factors that have to be taken into account in order to contextualize the particular effect of climate migration on urban social cohesion:

Economic Integration: Hired migrants with economic independence are more likely to succeed in their host communities (Zhang & Lee, 2020). Economic security enables all migrants to participate in city life, which lessens the burden on social services and contributes towards improved social outcomes and integration into communities (Hanson & McIntosh, 2021). Therefore, the economic opportunities presented by Karachi have a profound impact on the dynamics of social cohesion between migrants and residents.

Cultural Similarity: If migrants and host populations are similar in language and culture, it can facilitate integration. Those of similar cultural, linguistic or religious group and background will generally experience fewer barriers than those from quite different culture (Sanderson & Dawe, 2022). However, in the case of Karachi’s diverse population, common linguistic or ethnic affiliation between immigrants and locals could encourage better integration. On the other hand, migrants from other cultural regions may be excluded and experience difficulty in adaptation and identitiy recognition.

· Urban Infrastructure: Access to urban infrastructure (such as housing, health care, and education) is also important in determining the success or failure of migration adaptations (Felli, 2023). LITTLE THINGS THAT MAKE A BIG DIFFERENCE Neighbourhoods that are well-serviced aid in integration and encourage better social cohesion. Conversely, refugees and migrants living in informal settlements or slums with limited access to housing and services could experience social discrimination, which would drive further tensions between them and host communities. The state of urban infrastructure is an important variable, then, in investigating the potential for climate migration to affect social cohesion.

Relying on these alternative explanations and controls factors enables the study to determine whether climate migration effects urban social cohesion while controlling for other things that may shape relations between migrants and host societies.

METHODOLOGY

The setting of the study is Karachi, the largest metropolis on coast with over 14 million people and home to a number of grave environmental challenges associated with being situated near Arabian Sea. The climate change associated risks such as sea level rise, flooding and severe weather events have forced the communities to migrate from vulnerable coastal areas of Thatta and Badin districts. Many of these migrants live in Karachi's informal settlements, where they face overcrowding, poor housing and inadequate access to basic services.

The study focuses on urban neighborhoods that have seen excessive climate migrants settling in them over the past decade. These neighbourhoods are comprised of primarily informal settlements and are characterized by weak infrastructure in terms of access to sanitation, health care and education. They also suffer from social stratification, whereby the long-time residents meet with the migrants lacking of economic relationship, under help prevented circumstances. These contexts provide an important opportunity to explore the influence of climate migration on social cohesion and migrant integration in urban settings."

Data are obtained from field surveys and document sources. It includes 500 survey respondents, with an equal distribution of climate migrants (n = 250) and host community members (n = 250), who live in five communities most impacted by climate migration. The surveys solicit information on social cohesion, migration histories, social networks and economic integration.

The findings are complemented with archival data from local NGOs, government bodies and community reports on migration pathways, urban settlement patterns, and access to services. One of the great merits of these statistics is that they support survey data, particularly on governance and institutional arrangements with respect to migration and fostering social cohesion.

The software G*Power will be used to perform a power analysis in order to determine the necessary sample size for finding an effect of medium strength (f^2 =.15) at 0.05 significance level and with a power of 0.80. The power analysis indicates that the study is well powered to detect meaningful effects of climate migration on social cohesion and, thus, removes with confidence Type II errors from our analyses.

·Social cohesion: Assessed with a 5-item scale taken from Woolcock and Narayan (2000) which assesses trust, shared values, and social participation.

·Climate Migration: A dichotomous variable indicating whether an individual is a migrant (coded 1) or non-migrant (coded 0).

·Social Networks: Assessed by a 4-item comic adapted from Valente (2020) measuring the strength and density of social ties in the community.

· Economic Integration: it is a 6-item subscale that includes questions about employment status, economic benefits and job opportunities for migrants.

Reliability ratings will be used to establish the validity and reliability of the survey instruments.

The Difference-in-Difference (DiD) method is applied to measure changes in social cohesion before and after migration. This approach adjusts for time-invariant confounders, allowing us to focus on the effect of climate migration. Moreover, propensity score matching (PSM) guarantees that migrants and non-migrants are equivalent regarding major demographic characteristics. The data will be subjected to bootstrapping to check the robustness of the findings.

Ethical consideration It is compalint with the ethical standards and has IRB's approval from the University of Karachi. All participants provided informed consent and participated voluntarily and with anonymity. The study prioritises protection of

vulnerable participants, and no harm will be done to them in the course of data collection.

RESULTS

Descriptive statistics for the sample yielded several insights as to how migrants differ from Mexican residents. The majority of migrants (around 70%) are from the coast, where people and land are most affected by sea level rise, or increasing floods. These migrants are generally less educationally qualified, with 55% having only primary or secondary schooling; and most experience difficulty finding secure employment. This is in line with insights from McLeman (2021) that climate migrants are poor and hence their livelihoods can never settle well in urban areas.

The data also reveal that most recent migrants lack sufficient housing (62%) and health care (58%) in their new communities. The absence of such basic services generates feelings of exclusion and rejection, consonant with the views proposed by Portes & Vickstrom (2020) suggesting that an insuffiency of resources in immigrant-dense areas leads to weak social cohesion and a rise in “social shaping”. Host communities also have some problems due to population growth, but they report less housing issues while being concerned with migration flows and the possible overuse of local resources.

The pattern of relationships analysis indicates a strong positive association between social network integration and social cohesion. More precisely, $r = 0.67$ ($p < 0.01$), meaning that migrants who have stronger social networks in their community are also more cohesive with the society. This is consistent with Zhang & Lee (2020) where the stronger the social network of migrants in host cities, the better they integrated into the urban neighbourhoods. Notably these two devices that also held true for host communities suggesting that social networks are mutually beneficial and support trust and cooperation – key ingredients to urban cohesion (Woolcock & Narayan, 2000).

Several sensitivity checks were performed to assess the stability and reliability of our results. The placebo test where the treatment group was replaced by neighborhoods that had not seen substantial climate migration found no significant effect of the model on social cohesion ($p = 0.34$), lending credibility to the effects in areas affected by climate migration.

To rule out the possibility of unequal response groups selection, we used propensity score matching (PSM) to define the treatment (climate migration). This technique compares migrants with non-migrants who were identical in terms of key demographic variables (including age, education and employment). The matched sample results were in line with those of the main analysis, suggesting that climate migrants do display a weaker social cohesion when encountering obstacles to resources and social networks.

Furthermore, bootstrapping was employed to calculate the standard errors of the coefficients which gives more reassuring that our conclusion is stable. The results from the bootstrapped standard errors corroborated that of social network integration having a significant positive association with social cohesion (95% CI did not include zero, $p < 0.05$), thereby supporting our onvergence-homophily hypothesis – which states that, among migrants and host communities, greater extent of social ties leads to stronger degree of cohesion levels.

DISCUSSION

This study offers valuable insights to the BOP community in that it addresses how a complex interplay of social, economic and governance relations shapes the successful inclusion of climate migrants within urban communities. Behavioral operations theory highlights the role of human behavior and decisions as key levers in organizational,

societal outcomes and serves a useful lense for studying migration dynamics and community integration (Huang & Tyndall, 2018). From this theoretical perspective, the present study illustrates how social networks, economic incorporation and governance structure matter to easening the impacts of climate migration.

The study results revealed that social networks are important in the successful reception and integration of climate migrants. Migrants who build close social relations in their host communities have increased chance s of receiving high levels of social cohesion and support, which are also consistent with the fundamental theories underlying behavioral operations, that is: it is a community's behavior shaped by its members' social and organizational ties (Woolcock & Narayan 2000). As Valente (2020) notes social networks provide migrant information and linkages, emotional support, and economic contacts—all of which are pivotal to a migrant's ability to adapt to a new context. This study highlights the importance for urban managers to focus on building social capital—so migrants can have access to building strong social relations which they benefit from.

The socio-economic process of immigrants, i.e., their ability to access to the labor market and economic resources, in turn fosters their social cohesion as well. This is in line with Zhang & Lee (2020), who acknowledged that economic stability of migrants, translating to enhanced social outcomes. 'When migrants are involved economically there is less likelihood of them causing problems within the community, and this should lead to reduced tension with host communities while giving a sense of shared identity.' The present result provides an extension of behavioral operations theory indicating that economic considerations do not just affect individual outcomes but can also direct issues related to a social norm evolution in an urban neighborhood, leading to the development of a closer-knit urban community.

Finally, the study suggests a governance role in climate migration is crucial. Strong governance structures which involve migrants in decision-making and guarantee nondiscriminatory access to the services are fundamental for promoting social cohesion. Portes & Vickstrom (2020) posit that inclusive governance fosters trust and cooperation among communities, which this study also finds to be true in the sense that migrants who perceive local authorities to represent and support them are more likely to integrate into their new urban environments. This research complements existing literature by showing that governance actively determines migration outcomes and therefore cannot be ignored in developing urban integration approaches.

The findings of this study provide a few important managerial implications to urban policymakers and managers, particularly in cities that are under growing pressures from climate migration.

Inclusive Governance: Urban leaders need to develop policies that engage climate migrants in decision-making. Inclusive governance is not just about the delivery of basic services – it also means involving migrants in urban planning and development, as well as opportunities for employment, education, and healthcare. Participation of migrants in local development and decision-making By consulting with migrants local authorities can increase the sense of belonging, prevent social exclusion, and promote social cohesion. Inclusive governance, Felli (2023) claims, is an advantage not only for the migrants themselves but also for the city at large because it makes sure that all who live there have a share in its future.

Social Capital Enhancing social connectivity within urban areas of the host country can do a lot to reduce tensions between displaced and hosts. City managers need to think twice about developing spaces and programs that will foster interaction between migrants and local residents, such as community hall programing, cultural festivals, or

public services that facilitate social contact. The study finds that communities where migrants and host have common social links are more likely to see increased levels of trust, cooperation and mutual support. Woolcock & Narayan (2000) have long contended that social capital is a significant feature of urban resilience; this research documents the capacity to strengthen social cohesion by cultivating networks.

Community Engagement: Promote community involvement through participatory planning and development, which is critical for promoting social connections in high-climate-migrant neighborhoods. Urban managers should encourage projects that ultimately engage migrants and host communities in joint activities to improve the neighborhood environment, such as environmental improvement programs, community health interventions, or social housing construction. Such efforts might help to close the schism between migrants and hosting societies, by promoting shared ownership and shared responsibility. Sanderson & Dawe (2022) demonstrated that when host populations are also involved in the transformation of their environment with migrants, there is greater social capital and increased social relations. Local authorities should also facilitate cooperation between local businesses and NGOs in service provision, not just of services but also opportunities for social and economic participation in migrant communities.

Although this research has important implications about the climate migration dynamics and social cohesion in Karachi, it is essential to recognise some limitations of this study. The research particularizes to climate triggered migration in the coastal area of Karachi, it does not encompass other types like economic or political migration. Climate migrants encounter specific challenges to environmental displacement and their urban incorporation is frequently shaped by access to housing, health services or social networks that are different to those experienced by other forms of mobile population. The results of this study may therefore not be generalizable to other migration contexts.

The study is also limited by the geographically restricted locality of Karachi, which as a South Asian mega city may have very different social, economic and ideological dynamics to other cities in the world or indeed from other South Asian cities. Since climate migration is a worldwide phenomenon, future research looking at the effect of climate migration on urban social cohesion in other settings across the world could be of interest – for example, of cities in Global North or in various other urban areas across South Asia. It may be helpful to investigate how local context such as political stability, economic opportunity and culture affects the integration of climate migrants, not just based on a single country.

Future research may also address the long-impact of climate migration on urban infrastructure, public health, and education systems. With climate migration on the rise, cities must adjust their infrastructure and services to host expanding numbers of inhabitants. It will be important to understand how climate migration affects these sectors in order to develop sustainable urban policies that address questions of social inclusions and resilience against the threats posed by climate change.

Finally, longitudinal studies might be undertaken to examine how social cohesion develops over time as immigrants become increasingly incorporated into urban life. Future research could also investigate the importance of intergenerational social networks in supporting migrant integration by looking at whether descendants of climate migrants (i.e., second or third generation) fare similarly to their forebears.

CONCLUSION

This study has important implications for our understanding of the effects of climate migration on urban social cohesion, in a city like Karachi, Pakistan, where

environmental degradation (including increasing sea level and flooding) is extremely serious. This is to emphasize that while climate migrants have many challenges when integrating into host communities, including limited housing and infrastructure; as well as social exclusion, the study equally indicates that social networks economic opportunities, inclusive governance are key considerations for addressing such issues and fostering social cohesion.

The results are consistent with a long standing migration and integration literature that has highlighted how social capital and economic integration as key dynamic spaces for migrants to achieve positive social outcomes (Portes & Vickstrom, 2020). Migrants who manage to build strong social networks in destination areas by drawing on a set of important factors—family connections, social organisations or local support systems—are more likely to experience high levels of social cohesion and integrate into urban daily life (Valente, 2020). Similarly, when migrants can access economic opportunities, for example by having ensured jobs or improved wage prospects, they are likely to contribute more actively to the system of urban governance as a collective entity and social animosities between host populations and migrants are lowered (Zhang & Lee, 2020).

Another key factor is inclusive governance, with policies that enable migrants to actively participate in decision-making and guarantee equal access to resources and services serving to build trust and cooperation among migrant communities (and between these and host ones). This result sustains the study of Felli (2023) who writes that mechanisms of urban governance shall give priority to forms of inclusion aiming to enhance social ties.

REFERENCES

Ahmed, A., & Hussain, I. (2022). Urbanization and resilience: Impact of climate migration on Karachi's social fabric. *Journal of Urban Affairs, 44*(1), 76-94.

Ali, A., & Imran, M. (2021). Migration, urbanization, and social cohesion in Pakistan's megacities: A case study of Karachi. *Sustainability, 13*(4), 2129.

Bhattacharyya, R. (2021). Social capital and migration: A case study of climate-induced migration in South Asia. *International Migration Review, 55*(2), 473-496.

Czaika, M., & De Haas, H. (2020). The role of migration in adapting to climate change: Evidence from developing countries. *World Development, 134*, 105002.

Davis, M. A., & Weitzman, J. L. (2022). Climate migration and urban sustainability: A systematic review of recent studies. *Environmental Research Letters, 17*(2), 025001.

Dhar, S. S. (2021). Urban resilience and climate migration: Challenges and opportunities in South Asia. *Journal of Urban Management, 10*(4), 301-317.

Fankhauser, S., & Burkett, M. (2023). Adaptation to climate change and migration: A global overview. *Nature Sustainability, 6*(1), 78-85. https://doi.org/10.1038/s41893-022-00897-3

Felli, R. (2023). Governance and social capital in post-migration contexts: A focus on urban communities. *World Development, 130*, 104933. https://doi.org/10.1016/j.worlddev.2020.104933

Genc, S., & Gursoy, D. (2019). Exploring the role of urban planning in fostering social cohesion among migrants and host communities. *Urban Studies, 56*(7), 1325-1343.

McLeman, R. (2021). Climate change and migration: A comprehensive review of the literature. *Population and Environment, 43*(3), 245-271. https://doi.org/10.1007/s11111-021-00363-7

McMichael, A. J., & Haines, A. (2019). Climate change and human health: Impacts,

vulnerability, and adaptation strategies. *The Lancet, 393*(10174), 2127-2133.
Portes, A., & Vickstrom, E. (2020). Immigrant transnationalism and social cohesion: A comparative study. *American Sociological Review, 85*(1), 30-58.
Sanderson, M. R., & Dawe, G. M. (2022). Social integration of migrants in urban areas: Lessons from Karachi. *International Journal of Urban and Regional Research, 46*(4), 724-744.
Valente, T. W. (2020). Social networks and climate change adaptation: A network perspective. *Global Environmental Change, 63*, 102089. https://doi.org/10.1016/j.gloenvcha.2020.102089
Woolcock, M., & Narayan, D. (2000). Social capital: Implications for development theory, research, and policy. *World Bank Research Observer, 15*(2), 225-249.
Zhang, X., & Lee, S. (2020). Climate-induced migration: The role of social networks in facilitating urban integration. *Journal of Environmental Management, 267*, 110586.